

## **I. AMENDMENTS**

### **Amendment to the Claims:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (currently amended) A process of manufacturing a polysaccharide containing material having at least one desired structural, chemical, physical, electrical and/or mechanical property, the method comprising the step of contacting polysaccharide structures of the polysaccharide containing material with a polysaccharide binding domain containing composition before, during and/or after processing said polysaccharide structures into the polysaccharide containing material, wherein said polysaccharide binding domain containing composition includes at least two polysaccharide binding domains, thereby manufacturing the polysaccharide containing material having the desired structural, chemical, physical, electrical and/or mechanical property.

2. (original) The process of claim 1, wherein contacting said polysaccharide structures of the polysaccharide containing material with said polysaccharide binding domain containing composition is effected before processing said polysaccharide structures into the polysaccharide containing material.

3. (original) The process of claim 1, wherein contacting said polysaccharide structures of the polysaccharide containing material with said polysaccharide binding domain containing composition is effected during processing said polysaccharide structures into the polysaccharide containing material.

4. (original) The process of claim 1, wherein contacting said polysaccharide structures of the polysaccharide containing material with said

polysaccharide binding domain containing composition is effected after processing said polysaccharide structures into the polysaccharide containing material.

5. (original) The process of claim 1, wherein said polysaccharide containing material is selected from the group consisting of a paper, a textile, a yarn and a fiber.

6. (currently amended) The process of claim 1, wherein said structural property is selected from the group consisting of a predetermined level of cross-links between polysaccharide structures of said polysaccharide containing material, a ~~predetermined~~ predetermined aggregation of the polysaccharide structures of said polysaccharide containing material and a predetermined surface texture of the polysaccharide containing material.

7. (original) The process of claim 1, wherein said chemical property is selected from the group consisting of a predetermined hydrophobicity, a predetermined hydrophylicity, a predetermined wet-ability, a predetermined chemical reactivity, a predetermined photochemical reactivity, a predetermined functionality and a predetermined surface tension.

8. (original) The process of claim 1, wherein said physical property is selected from the group consisting of a predetermined Young's modulus, a predetermined strain at maximum load, a predetermined energy to break point, a predetermined water absorbency, a predetermined swellability and a predetermined toughness.

9. (original) The process of claim 1, wherein said electrical property is selected from the group consisting of a predetermined surface charge and a predetermined electrical conductivity.

10. (original) The process of claim 1, wherein said mechanical property is selected from the group consisting of a predetermined tensile strength, a predetermined resistance to shear, a predetermined abrasion resistance, a

predetermined frictional coefficient, a predetermined elasticity and a predetermined wet strength.

11. (currently amended) The process of claim 1, wherein said ~~polysaccharide binding domain containing composition includes a~~ polysaccharide binding domain and said at least one additional polysaccharide binding domain are covalently coupled thereto.

12. (original) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and another protein covalently coupled thereto.

13. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a hydrophobic group covalently coupled thereto.

14. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a hydrophilic group covalently coupled thereto.

15. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a biological moiety covalently coupled thereto.

16. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an enzyme covalently coupled thereto.

17. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an chemical reactive group covalently coupled thereto.

18. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an chemical photoreactive group covalently coupled thereto.

19. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a lipase covalently coupled thereto.

20. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a lacase covalently coupled thereto.

21. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a protein A-antibody covalently coupled thereto.

22. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a peptide covalently coupled thereto.

23. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a polypeptide covalently coupled thereto.

24. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a hydrocarbon or a hydrocarbon derivative covalently coupled thereto.

25. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a fatty acid derivative covalently coupled thereto.

26. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an electrically charged moiety covalently coupled thereto.

27. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an ionic moiety covalently coupled thereto.

28. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a silicon binding moiety covalently coupled thereto.

29. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a polymer binding moiety covalently coupled thereto.

30. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a metal covalently coupled thereto.

31. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a metallothionein-like protein covalently coupled thereto.

32. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and ferritin covalently coupled thereto.

33. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a metal binding moiety covalently coupled thereto.

34. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a bacterial siderophores covalently coupled thereto.

35. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a metallothionein covalently coupled thereto.

36. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a thiol group covalently coupled thereto.

37. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an aldehyde covalently coupled thereto.

38. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a maleimide covalently coupled thereto.

39. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a hydrazide covalently coupled thereto.

40. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and an epoxide covalently coupled thereto.

41. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a carbodiimide covalently coupled thereto.

42. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain and a phenylazide covalently coupled thereto.

43. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain which is a cellulose binding domain.

44. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain which is a starch binding domain.

45. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain capable of binding to cellulose.

46. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain capable of binding to starch.

47. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain capable of binding to chitin.

48. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain which is a glucan-binding domain.

49. (withdrawn) The process of claim 1, wherein said polysaccharide binding domain containing composition includes a polysaccharide binding domain which includes *streptococcal* glucan-binding repeats.

50-104. (canceled)

105. (currently amended) A process of manufacturing a polysaccharide containing material having at least one desired structural, chemical, physical, electrical and/or mechanical property, the method comprising the step of contacting polysaccharide structures of the polysaccharide containing material with a polysaccharide binding domain containing composition, during and/or after processing said polysaccharide structures into the polysaccharide containing material, wherein said polysaccharide binding domain containing composition includes at least two polysaccharide binding domains, and thereafter covalently coupling at least one moiety or group to said polysaccharide binding domain composition, thereby manufacturing the polysaccharide containing material having the desired structural, chemical, physical, electrical and/or mechanical property.

106. (new) The process of claim 105, wherein said polysaccharide binding domain and said at least one additional polysaccharide binding domain are covalently coupled.

107. (new) The process of claim 105, wherein said polysaccharide binding domain and said at least one additional polysaccharide binding domain are attached via a linker unit.

108. (new) The process of claim 107, wherein said attachment is via covalent bonding, ionic bonding, hydrophobic bonding, hydrogen bonding, protein translation or protein expression.

109. (new) The process of claim 107, wherein said linker unit has a polysaccharide component.

110. (new) The process of claim 109, wherein said polysaccharide component is a starch.



111. (new) The process of claim 107, wherein said linker unit contains one or more polysaccharide binding domains.

112. (new) The process of claim 105, wherein said polysaccharide binding domain is part of a protein and said at least one additional polysaccharide binding domain is part of another protein.

113. (new) The process of claim 1, wherein said polysaccharide binding domain and said at least one additional polysaccharide binding domain are attached via a linker unit.

114. (new) The process of claim 113, wherein said attachment is via covalent bonding, ionic bonding, hydrophobic bonding, hydrogen bonding, protein translation or protein expression.

115. (new) The process of claim 113, wherein said linker unit has a polysaccharide component.

116. (new) The process of claim 115, wherein said polysaccharide component is a starch.

117. (new) The process of claim 113, wherein said linker unit contains one or more polysaccharide binding domains.

118. (new) The process of claim 1, wherein said polysaccharide binding domain is part of a protein and said at least one additional polysaccharide binding domain is part of another protein.

119. (new) The process of claim 11, wherein said polysaccharide binding domain is part of a protein and said at least one additional polysaccharide binding domain is part of another protein.